



2

AD-A234 503

Pregnant Enlisted Women in Navy Work Centers

**Marie D. Thomas
Patricia J. Thomas
Virginia McClintock**

1991 FEB 10

Pregnant Enlisted Women in Navy Work Centers

Marie D. Thomas
Patricia J. Thomas
Virginia McClintock

Reviewed by
Jack E. Edwards

✓

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Dist. A-1

Approved and released by
Jules I. Borack
Director, Personnel Systems Department

Approved for public release;
distribution is unlimited

Navy Personnel Research and Development Center
San Diego, California 92152-6800

REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE March 1991		3. REPORT TYPE AND DATES COVERED Final--Oct 88-Apr 89
4. TITLE AND SUBTITLE Pregnant Enlisted Women in Navy Work Centers			5. FUNDING NUMBERS Program Element 0603707N, Work Unit R1770	
6. AUTHOR(S) Marie D. Thomas, Patricia J. Thomas, Virginia McClintock				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Navy Personnel Research and Development Center San Diego, California 92152-6800			8. PERFORMING ORGANIZATION REPORT NUMBER NPRDC-TN-91-5	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) Chief of Naval Operations (OP-01) Washington, DC 20350-2000			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) This report documents an effort to determine the amount of lost time due to pregnancy and to assess perceptions of supervisors and their pregnant subordinates regarding the effect of pregnancy on the workplace. Data were collected from pregnant enlisted women receiving medical care at San Diego and Tidewater area Navy prenatal clinics using a structured interview. A special purpose survey was sent to the current and former supervisors of the interviewed women. Key findings included: 1. Lost time due solely to pregnancy amounted to 1 day per month per pregnant woman in the San Diego and Tidewater areas. 2. The impact of pregnancy on the work center and on the command was seen as greater on ships than at shore commands. 3. Until the third trimester, most women continued to work normal shifts and hours in their rating during their pregnancy. 4. Most co-workers and supervisors tended to respond positively to the news of pregnancy.				
14. SUBJECT TERMS Women, pregnancy, lost time			15. NUMBER OF PAGES 49	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT UNCLASSIFIED	18. SECURITY CLASSIFICATION OF THIS PAGE UNCLASSIFIED	19. SECURITY CLASSIFICATION OF ABSTRACT UNCLASSIFIED	20. LIMITATION OF ABSTRACT UNLIMITED	

FOREWORD

This effort represents the second phase of a 3-year project to investigate the impact of pregnancy and single parents on mission accomplishment in the Navy. The purpose of this phase was to determine the total amount of lost time due solely to pregnancy and to gather perceptions of supervisors and their pregnant subordinates regarding the effect of pregnancy on: the work place, co-worker morale, and readiness. Findings and recommendations are for the use of the Chief of Naval Operations (OP-13, OP-15) and the Surgeon General of the Navy (MED-25).

The overall effort is being conducted within the advanced development Program Element 0603707N, Work Unit R1770, under the mission sponsorship of the Chief of Naval Operations (OP-01B2). The results are expected to benefit the Navy by providing the information needed to develop policies to effectively manage pregnancy and single parenthood.

The authors wish to thank the women who consented to be interviewed and the supervisors who promptly responded to the survey. In addition, special thanks go to LCDR Debra Coleman, DP1 Susan Newhouse, PN1 Kathy Powless, Amy Culbertson, Vicki Ostern, and Susan Turk for conducting the interviews, and to Marissa Lobato Meda, Lorama Malone, Nancy Roelle, and Suzanne Wiegand for their help in coding, entering, and analyzing the data. A special thanks goes to Jack Edwards for his careful reading and insightful comments.

JULES I. BORACK
Director, Personnel Systems Department

PREVIOUSLY PUBLISHED WORKS OF THE LOST TIME PROJECT

Thomas, M. D., & Lawson, J. (1989). *The effectiveness of sex education in the United States* (NPRDC-TN-89-23). San Diego, Navy Personnel Research and Development Center.

Thomas, P. J., & Edwards, J. E. (1989). *Incidence of pregnancy and single parenthood among enlisted personnel in the Navy* (NPRDC-TR-90-1). San Diego: Navy Personnel Research and Development Center.

SUMMARY

Problem

Navy policy changes that allow women to serve on noncombatant ships and to remain in the Navy if pregnant have generated concern about female absenteeism. The belief that pregnancy causes women to lose more time on the job than do men and that pregnancy impacts negatively on work groups and on mission accomplishment appears to be widespread. Objective data must be obtained to determine whether these perceptions have validity and, if they do, to develop ways of minimizing the negative effects.

Objective

This is the second phase of a 3-year research project. The purpose of this phase was to determine the total amount of lost time due solely to pregnancy. In addition, perceptions of supervisors and their pregnant subordinates regarding the effect of a pregnancy on the work place, on co-worker morale, and on readiness, were gathered as part of the effort to investigate the degree to which pregnancy impacts negatively on mission accomplishment.

Approach

Data were collected from pregnant enlisted women receiving medical care at San Diego and Tidewater area prenatal clinics using a structured interview. A special purpose survey was sent to the current and former supervisors of the interviewed women.

Findings

1. Lost time due to prenatal clinic visits averaged 2.4 hours per month, according to pregnant women, or 4.5 hours according to their supervisors. Lost time due to pregnancy-related illness averaged 5 hours per month, according to pregnant women, or 3.4 hours, according to their supervisors. Thus, lost time due solely to pregnancy amounted to 1 day per month per pregnant woman in the San Diego and Tidewater areas.
2. The impact of pregnancy on the work center was seen as greater on ships than at shore commands.
3. Until the third trimester, most women continued to work normal shifts and hours in their rating during their pregnancy.
4. There is some evidence that pregnant women may be transferred off ships earlier than required by Navy policy.
5. Supervisor knowledge of pregnancy regulations was uneven, and many women did not receive the required counseling about service options.
6. Co-workers and supervisors tended to respond positively to the news of pregnancy; however, one-quarter of supervisors reacted negatively, with women in ships more likely to report

this outcome. Commands and work groups receiving women transferred due to pregnancy responded to them with equanimity.

7. While supervisors in ships were more likely than those ashore to report a decrease in women's work motivation upon becoming pregnant, almost half of the pregnant women in ships exhibited a high level of motivation. Supervisors afloat also were more likely than those ashore to report a reduction in the pregnant woman's contribution to command readiness. However, most supervisors did not view the billets occupied by pregnant women as very critical.

8. Less than 20 percent of the supervisors felt that having a pregnant woman had a negative effect on the workload of others. Supervisors in ships, however, were more apt to note such an effect.

Recommendations

Based on the findings of the interviews and surveys, the following recommendations are made:

1. The Director of Military Personnel Policy should develop a short summary of the OPNAVINST 6000.1A. That summary should focus on the responsibilities of supervisors in managing pregnant women and contain a list of potential hazards. Upon confirmation of a pregnancy, medical personnel should provide the summary to women for their immediate supervisors. Implementing this recommendation should improve supervisors' knowledge of the contents of the instruction, raise awareness of environmental substances that could endanger the unborn child, and increase the probability that women would received pregnancy counseling.

2. The Director of Military Personnel Policy should emphasize to commanding officers of ships that pregnant women should not have their hours or shifts shortened, be excused from watch standing, or be given rest periods during the first 20 weeks of the pregnancy, *unless* the change is recommended by a health-care provider. The workshop for prospective commanding officers of integrated ships is an appropriate forum for implementing this recommendation.

3. The Chief of Naval Personnel should widely disseminate the findings described in this paper, perhaps in *Navy Times* or *All Hands*.

CONTENTS

	Page
INTRODUCTION	1
Navy Pregnancy Policy	2
Purpose	2
APPROACH	3
Description of Instruments	3
Pregnancy Interview	3
Supervisor Survey	3
Procedure	3
Samples	4
Pregnant women	4
Supervisors	5
Data Analysis	5
RESULTS AND DISCUSSION	6
Management of Pregnant Women	6
Assignment	6
Transfer	8
Supervisor knowledge of Navy Pregnancy Policy	8
Hazards in the Work Environment	10
Interpersonal Outcomes of Pregnancy	11
Supervisor and Co-worker Reactions to News of Pregnancy	11
Change in Treatment	12
Reaction of New Work Group	13
Change in Woman's Motivation	14
Impact of Pregnancy on Command	15
Pregnancy-related Variables and Their Effect on the Workplace	15
Effect of Pregnancy on Command Readiness	16
Nonavailable Time Resulting From Pregnancy	17
CONCLUSIONS	19
Management of Pregnant Women	19
Interpersonal Outcomes of Pregnancy	20
Impact of Pregnancy on Command	20
RECOMMENDATIONS	21
REFERENCES	23
APPENDIX A--INTERVIEW OF PREGNANT NAVY WOMEN	A-0
APPENDIX B--SURVEY OF SUPERVISORS	B-0
DISTRIBUTION LIST	

LIST OF TABLES

1. Number of Women Interviewed at Each Location	4
2. Demographics of Pregnant Women in the Sample	5
3. Demographics of Supervisors.....	6
4. Percentage of Women Working Within Their Rating Before and After Becoming Pregnant	7
5. Percentage of Women at Shore Commands Reporting Job Changes	7
6. Women's Perceptions and Supervisors' Assessments of Supervisor Knowledge of Navy Pregnancy Policy	9
7. Counseling About Pregnancy Per OPNAVINST 6000.1.....	9
8. Hazards in the Work Environment	10
9. Women's Perception of Original and New Work Center Reaction to Pregnancy	11
10. Women's Perception of Changes in Treatment by Original Work Center Supervisor and Co-worker.....	13
11. Supervisors' Perception of Work Motivation of Women Before and and After Becoming Pregnant	14
12. Effect of Pregnancy-related Events on the Workplace as Perceived by Pregnant Women (W) and Their Supervisors (S)	15
13. Effect of Pregnancy-related Events on the Workplace as Perceived by Supervisors Ashore (AS) and Afloat (AF)	16
14. Percentage of Women and Supervisors Reporting That Contribution to Command Readiness Decreased as a Result of Pregnancy	17
15. Pregnancy-related Lost Time by Trimester	18

INTRODUCTION

Women constitute approximately 10 percent of the Navy (Bureau of Naval Personnel, 1989). The expanded role of women in the military since the late 1960s has been more than simply an increase of numbers. Although women were initially included to fill gaps in male recruiting, policy changes in 1971 and 1975 permitted women to remain on active duty while pregnant. In 1978 Congress authorized women to serve aboard noncombatant ships through Public Law 95-485.

Perhaps the most conspicuous and controversial effect of these policy changes has been the presence of pregnant women among the ranks. This presence has generated strong, often negative, opinions about discharge and leave policies, time off for prenatal visits and sickness, removal of pregnant women from hazardous and physically demanding environments (e.g., ships); and restrictions on what a pregnant woman can and cannot do (Olson & Stumpf, 1978). While prevalent, these negative attitudes are difficult to measure: "The 'morale' factor (the supposed hostility of those who are not parents and who take up the slack when a mother requires a particular schedule or when a pregnant woman must use half a day for a prenatal checkup) is hard to estimate" (Stiehm, 1989, p. 221).

Few organizational studies have considered the effects of pregnancy on the civilian or military workplace. Research in the civilian literature primarily documents separation policies, maternity leave, and fetal health issues (Bertin & Henifin, 1987; Kenney, 1986). Discussions of the relationship between work and pregnancy are almost entirely limited to the effect of work on pregnancy (e.g., Kotch, Ossler, & Howze, 1984; Walsh & Kelleher, 1987). The timeliness of the present research is underscored by Blasko, O'Brien, Huester, and O'Brien (1989, p. 24): "It would be of interest to interview expectant couples and their co-workers to examine the effects of pregnancy."

While some authors (Bolin, Cowings, & Johns, 1977; Mitchell, 1989; Vernon, 1980) have described or alluded to effects of pregnant military enlistees, Olson and Stumpf's (1978) study was the only one to describe workplace effects. It was conducted in response to the first wave of protests that arose when pregnant women were allowed to remain on active duty. Olson and Stumpf studied archival Navy data on 1,000 men and 1,000 women and interviewed 54 service members who had worked with a pregnant sailor. They found that junior enlisted women lost fewer days of work than their male counterparts, even when absence due to pregnancy and childbirth was considered. Although Thomas and Edwards (1989) criticized the Olson and Stumpf study for examining limited sources of absenteeism and outdated assignments of women, Thomas' (1987) study of the Navy standard workweek supported the finding that enlisted women did not experience more nonavailable time than did enlisted men.

The notion that pregnancy is a "problem" for the Navy seems to be widespread, despite the lack of empirical evidence as to its extent and impact. Because of this perception and plans to continue to expand the role of women, in 1987 the Navy Personnel Research and Development Center was tasked to conduct a series of studies over a 3-year period to investigate the impact of pregnancy and single parenthood among enlisted personnel on the Navy.

The first phase of the project, reported in Thomas and Edwards (1989), was a Navy-wide survey that investigated the scope of pregnancy and single parenthood. The results indicated that

pregnancy was most prevalent among women in their first enlistment. The survey data did not support the perception that higher proportions of women assigned to sea duty (as opposed to shore duty) became pregnant, and little difference was found in pregnancy rates between those stationed in the continental United States (CONUS) vs. those out of CONUS. Comparisons to birthrates among non-military women led to the conclusion that Navy women are probably getting pregnant at a rate similar to their civilian cohorts.

Thomas and Edwards (1989) also reported that most of the pregnancies were unplanned and found no relationship between attendance in a sex education course and later family planning behavior. The men involved in most of the pregnancies were members of the military. The abortion rate among Navy women was half of the rate found in the civilian population. The miscarriage and stillbirth rates also were lower.

Navy Pregnancy Policy

OPNAVINST 6000.1, Management of Pregnant Servicewomen (Department of Navy, 1985) and OPNAVINST 6000.1A (Department of Navy, 1989) detail the responsibilities of the commanding officer, pregnant servicewoman, health-care provider, and occupational health specialist in the management of pregnancy in the workplace. All personnel involved in the management of pregnant servicewomen are expected to be aware of and adhere to the instruction. According to both instructions, women are allowed to request separation from the Navy due to pregnancy. The 1985 instruction detailed the following limitations for pregnant women in the workplace: women assigned to ships must be put ashore by the 20th week of pregnancy; pregnant women are disqualified from certain jobs in aviation squadrons (waivers may be requested for the first two trimesters); and during the last 3 months of pregnancy (week 28 and beyond) servicewomen are allowed to rest 20 minutes every 4 hours, and are limited to a 40-hour workweek (which can be extended on a case-by-case basis). In addition, pregnant women are usually placed in light duty status between the 36th and 38th week of pregnancy.

In February 1989, the revised version of the pregnancy instruction, OPNAVINST 6000.1A (Department of Navy, 1989) was released. As a result of this update, convalescent leave has been extended from 30 to 42 days; women assigned to ships are no longer automatically put ashore if the ship deploys before the 20th week of pregnancy, as long as medical evacuation can be managed in less than 3 hours;¹ and the role of the occupational health specialist in pregnancy management has been made explicit. Additionally, the instruction states that requests for separation because of pregnancy will *not* normally be approved.

Purpose

The purpose of this second phase of the research was to determine the total amount of time lost due solely to pregnancy. In addition, the perceptions of supervisors and their pregnant subordinates regarding the effect of a pregnancy on workplace morale and on readiness were gathered to investigate the degree to which pregnancy impacts negatively on mission accomplishment.

¹A recent directive (NAVOP 030/90, 29 March 1990) has extended this time to 6 hours.

APPROACH

Description of Instruments

A structured interview was used to collect data from pregnant enlisted women at prenatal clinics. Supervisors of the interviewed women completed a survey.

Pregnancy Interview

The structured interview was developed and pilot-tested at a San Diego prenatal clinic, before being used to collect information from the pregnant Navy enlisted women who participated in the study. The interview addressed demographics, organizational management of the pregnancy, interpersonal outcomes of the pregnancy, impact of the pregnancy on the command, and the woman's personal experience of the pregnancy. A copy of the interview may be found in Appendix A.

Supervisor Survey

A survey was designed to gather information from the pregnant woman's supervisor regarding pregnancy in the workplace. It was revised after interviewing chief petty officers and commissioned officers on ships stationed in San Diego. The 18-item form assessed implementation of Navy pregnancy policy, impact of pregnancy on the work center, the reaction of others to the pregnancy, and the work motivation of the pregnant woman. A copy of the survey may be found in Appendix B. Additionally, if the woman had been transferred during her pregnancy, her former supervisor was sent a 17-item survey that rephrased the questions into the past tense but essentially obtained the same information.

Procedure

The interviews of pregnant enlisted women were conducted at obstetric/gynecology (OB/GYN) clinics in San Diego, California and Norfolk/Portsmouth, Virginia. These locations were chosen because of the concentration of Navy women in these geographic areas, and the probability that women assigned to ships would be well represented.² Interviewers were female and included both civilian and Navy personnel.

An attempt was made to interview all women coming into the two major prenatal clinics in the chosen locations during the 1 month spent at each site. The enlisted women were individually interviewed, usually while they were waiting for their clinic appointments. Interviews lasted from 30 to 90 minutes; most commonly 45 minutes. A total of 486 women were interviewed with approximately half on each coast (see Table 1).

As part of the interview, the women named their current and, if applicable, former supervisor. The movement among work areas by both the enlisted women and their supervisors made it impossible to delineate supervisors as "former" and "current" as had been planned originally. Fully 426 of the 591 (72%) supervisors identified by the pregnant women returned the survey: 215 from the San Diego area and 211 from the Norfolk area.

²Approximately 32 percent of all Navy enlisted women are assigned in the San Diego and Tidewater areas.

Table 1
Number of Women Interviewed at Each Location

Location	<u>N</u>	Percentage
West Coast (San Diego)	249	51.2
32 Street Clinic	182	37.4
Naval Hospital	67	13.8
East Coast (Norfolk/Portsmouth)	237	48.8
Sewell's Point Clinic	170	35.0
Naval Hospital	67	13.8

Samples

Pregnant Women

Table 2 presents demographic statistics on the pregnant Navy enlisted women who were interviewed.

The average age of the interviewed women was 24.7 years, almost identical to the mean age of 24.9 years reported for a representative sample of Navy enlisted women (Thomas & Edwards, 1989). While mean time served in the Navy was slightly over 4 years, 61 percent of the women were in their first enlistment (untabled).

Most of the women were in shore-intensive ratings. The ratings most frequently encountered were airman, electronics technician, personnelman, radioman, storekeeper, seaman, and yeoman. At the time they became pregnant, 25 percent were on sea duty. Women assigned to sea duty are over-represented in the interview sample. According to Navy statistics, 18 percent of enlisted women were on sea duty during this period (Bureau of Naval Personnel, 1989). This intentional over-representation occurred because San Diego and Norfolk are major ports.

Fifty-eight percent of the women were married to the father at conception; 73 percent would be married before the birth of the child. Women on shore duty (68%) were more likely to be married to the child's father than women on sea duty (42%) (untabled).

Seventy-six percent of the women reported that the father of their baby was in the military; 91 percent of these men were in the Navy (untabled). Most of the women were experiencing their first pregnancy carried to term in the Navy. The sample was not evenly divided by trimester.

Table 2
Demographics of Pregnant Women in the Sample

Variable	Value
Mean age	24.7
Mean years in Navy	4.4
Paygrade	
Percent E-3 and below	38
Percent E-4 and above	62
Rating	
Percent shore-intensive	58
Percent sea-intensive	22
Percent non-rated	20
Duty Location When Became Pregnant	
Percent ashore	75
Percent afloat	25
Marital Status	
Percent married to father at conception	58
Percent married before birth	73
Percent first pregnancy in Navy	60
Percent first pregnancy carried to term	73
Trimester of Pregnancy	
Percent first	14
Percent second	39
Percent third	47

Supervisors

Table 3 presents demographic statistics on the supervisors who responded to the surveys.

Most of the supervisors were male active duty enlisted personnel. Over half (54%) were petty officers, and 29 percent were chief petty officers. While the average age of the supervisors was 35.5, ages ranged from 23 to 58 years. They had been in the Navy for an average of 14.5 years; however, some supervisors had less than 2 years of service. Because the majority of women were in shore units when they were interviewed, most of the supervisors responding to the survey were from shore commands. In fact, only 15 percent of the supervisors were in afloat units.

Data Analysis

When units of analysis were frequencies and percentages, chi-square statistics were used to test statistical significance. Score data were subjected to *t*-tests. Because the sample was not evenly divided among women in each trimester, some of the analyses involved a weighting procedure to compensate for the unequal distribution; these analyses will be noted.

Table 3
Demographics of Supervisors

Variable	Value
Gender	
Percent male	79
Percent female	21
Status	
Percent petty officers	54
Percent chief petty officers	29
Percent commissioned officers	12
Percent other	5
Mean age	35.5
Mean years in Navy	14.5
Duty Location	
Percent ashore	85
Percent afloat	15

RESULTS AND DISCUSSION

Management of Pregnant Women

Assignment

A concern of Navy management is whether pregnant women are being properly utilized. Table 4 presents percentages of women working in their rating before and after becoming pregnant.

Overall, 84 percent of the women who had worked in their rating before pregnancy continued to do so after they became pregnant (untabled). Most women (66%) remained in the same command after becoming pregnant, and 90 percent of these women continued to work in their rating. Women who were transferred after becoming pregnant were less likely to be assigned jobs within their rate. This is not surprising since most of the transferred women had originally been assigned to ships. An empty billet in a shore counterpart of the shipboard rating might not exist in the receiving command, or the physical requirements of the rating might be excessive for women in advanced stages of pregnancy.

A woman transferred from a ship to a shore command would experience major changes in her work environment. However, a question remains as to whether women stationed in shore commands throughout their pregnancy are also subject to changes in their work environment. Table 5 shows the percentage of women in each trimester who reported pregnancy-related changes in their work environments.

Table 4
**Percentage of Women Working Within Their Rating Before
and After Becoming Pregnant**

	Percentage
Worked in Rating Before Pregnancy^a	
Ashore (<i>N</i> = 331)	84
Afloat (<i>N</i> = 112)	85
Worked in Rating During Pregnancy^b	
If remained in original command	
Ashore (<i>N</i> = 219)	89
Afloat (<i>N</i> = 22)	91
If transferred to different command	
Ashore (<i>N</i> = 54)	57
Afloat (<i>N</i> = 52)	59

^aOnly women who were rated at the time of the interview were included (*N* = 443). Forty-one women (9%) were nonrated and information about rating was unavailable for two women.

^bOnly women who were working in their rating before pregnancy were included (*N* = 374).

Table 5
Percentage of Women at Shore Commands Reporting Job Changes

Type of change	Percent Reporting the Change by Trimester				Mean Week Change Occurred
	1st	2nd	3rd	Overall	
Assigned to a new work center	12	16	24	19	14
Assigned to light duty	8	15	33	23	20
Assigned to different shift	2	7	18	12	19
Work hours shortened	4	8	40	22	25
No change ^a	78	69	32	56	

^aColumns sum to more than 100 percent because some women reported more than one type of change.

Each of the four types of job changes was more likely to occur as pregnancy progressed. Most women in their first and second trimesters of pregnancy reported that no job changes had occurred. Only 32 percent of women in their third trimester reported no changes. On the average, assignments to a new work center were made at 14 weeks of pregnancy. Shift changes and assignment to light duty occurred, on the average, at 19 or 20 weeks of pregnancy. If a shift was changed, the woman most likely went from working the night (graveyard) shift or rotating shifts to the day shift or midday/evening shift. Changes in work hours occurred later in pregnancy than did other changes, at about 25 weeks of pregnancy. These women had been working an average of 10.1 hours per day, and after the change in work hours, the average work day became 6.7 hours. Even with revised work hours, over half were working at least 8 hours (untabled).

Transfer

Of the 120 women who became pregnant while assigned to a ship, 76 percent had been transferred ashore when they were interviewed (untabled). On the average, they had been transferred during the 16th week of pregnancy (untabled). Almost half remained aboard ship for the first 20 weeks of their pregnancy, and over 90 percent of those who were transferred from a ship left by the 21st week of pregnancy (untabled). This finding is consistent with the guidelines set forth in OPNAVINST 6000.1A. Most of these women were transferred to naval stations, shore intermediate maintenance activities, and air intermediate maintenance detachments.

While transfers due to pregnancy were common among women assigned to ships, only 21 percent of the women ashore were transferred during their pregnancy (untabled). Most (57%) of the shore-based women who transferred were experiencing a normal rotation. An additional 32 percent were transferred because they could not continue to work in a particular setting (e.g., on a flight line) (untabled). The rest of the women were transferred for reasons (e.g., a conflict with their supervisor) unrelated to pregnancy or to a normal rotation.

Supervisors' Knowledge of Navy Pregnancy Policy

Each woman was asked whether her supervisor had prior experience with pregnant women and whether the supervisor was familiar with the pregnancy regulations. Supervisors were also surveyed on their degree of experience with pregnant women in the workplace and their familiarity with OPNAVINST 6000.1. Table 6 illustrates the responses of both pregnant women and supervisors.

Women at shore commands were more likely than women from ships to perceive that their supervisor had prior experience with pregnant women [$\chi^2 (2, N = 391) = 15.95, p < .001$]. Correspondingly, women ashore were more likely than women afloat to report that their supervisor knew the regulations associated with the Navy pregnancy policy [$\chi^2 (2, N = 391) = 23.66, p < .001$].

Sixty-four percent of the supervisors ashore and 73 percent of supervisors afloat had previous experience with pregnancy. The discrepancy between the supervisors' self-reports and the pregnant women's perceptions indicates that the women, especially those in ships, do not seem to be aware of this high degree of supervisor experience with pregnancy. Supervisors afloat were less likely than supervisors ashore to report familiarity with the pregnancy instruction [$\chi^2 (1, N = 420) = 8.30, p < .01$]. Over 40 percent of supervisors in ships admitted to no knowledge of this instruction. Pregnant women from ships perceived that a higher percentage of their supervisors were uninformed than did women ashore.

Table 6
**Women's Perceptions and Supervisors' Assessments of
Supervisor Knowledge of Navy Pregnancy Policy**

	Ashore		Afloat	
	Women	Supervisors	Women	Supervisors
Supervisor experience with pregnant enlisted women				
Yes	40	64	17	73
No	48	36	72	27
Don't know	12		11	
Supervisor knowledge of pregnancy regulations				
Yes	64	75	38	57
No	28	25	57	43
Don't know	8		5	

According to OPNAVINST 6000.1, all women must be counseled about their responsibilities and service options when the command is notified that they are pregnant. Table 7 presents statistics regarding this counseling.

Table 7
Counseling About Pregnancy Per OPNAVINST 6000.1

Variable	Value
Mean weeks of pregnancy before command notified	8.50
Mean weeks after notification until counseling	2.45
Percent Counseled^a	
Ashore	41
Afloat	52
$\chi^2 (1, N = 462) = 4.27, p < .05$	
West Coast	58
East Coast	29
$\chi^2 (1, N = 462) = 40.03, p < .001$	

^aPercentages exclude eight women in the sample (2%) who refused counseling.

On the average, women reported that the command was notified of the pregnancy during the ninth week of pregnancy. Of the women who received counseling, 76 percent were counseled within 3 weeks of command notification of pregnancy (untabled). Twelve percent of women ashore and 23 percent of women on ships were counseled immediately upon command notification of pregnancy (untabled). A significant difference between women ashore and women afloat was found, with women afloat more likely to have been counseled. There was also a geographic difference--women stationed on the West Coast were twice as likely as their East Coast peers to have been counseled.

Hazards in the Work Environment

Information about hazards in the work environment is presented in Table 8.

Table 8
Hazards in the Work Environment

Variable	Ashore	Afloat	χ^2
Women (interview)			
Percent questioned by medical personnel about hazards	60	48	4.58*
Percent who thought hazards existed when pregnancy discovered	43	79	44.93**
Supervisors (survey)			
Percent who believe hazards exist in the work environment	35	79	44.15**

* $p < .05$.

** $p < .001$.

Women ashore were more likely to have been questioned by medical personnel about environmental hazards than were women afloat. One possible explanation for this finding is that each ship has a medical officer who would be well acquainted with the hazards in the various shops and offices.

Hazards were reported proportionately more often in shipboard environments. Seventy-nine percent of the women afloat and 43 percent of the women ashore stated that, at the time they discovered they were pregnant, there had been hazards in their work environment. Furthermore, 34 percent of the women believed that hazards existed in their current work center (untabled). The most frequently mentioned hazards were chemicals, fuels, and fumes from paints and other products. Fewer physical hazards were mentioned; the most common were noise, heat, X-rays, electric shock, and radiation. It should be noted that these women were not necessarily working directly with the substances, only that the substances were present in the work center. In addition,

some women mentioned physical demands made by their jobs, such as lifting or pushing heavy loads, climbing, (especially in ships) and prolonged standing.

The hazards mentioned by ashore versus afloat supervisors differed. Only 35 percent of the shore-based supervisors thought that there were hazards in the work environment as contrasted to 79 percent of the shipboard supervisors. Thus, there was considerable agreement with perceptions of the pregnant women ashore and afloat (43% and 79%, respectively). Among supervisors aboard ships, lifting was the primary concern, followed by paint and toxic fumes. For supervisors ashore, lifting also was the primary concern, followed by exposure to chemical compounds and solvents, and climbing. Supervisors afloat reported that the maximum weight usually lifted by women in the same job as the pregnant woman was 40 pounds; supervisors ashore reported 21 pounds.

When supervisors were asked where they got information about hazards, 44 percent reported that they obtained information through personal initiative; 37 percent received it from the pregnant woman who, in turn, brought it from the prenatal clinic; 15 percent knew about hazards from personal experience; and 12 percent received information through the chain of command (untabulated). Percentages add to over 100 because supervisors could cite more than one source.

Interpersonal Outcomes of Pregnancy

Supervisor and Co-worker Reactions to News of Pregnancy

The women were questioned about co-worker and supervisor reactions to their pregnancy. Responses to this open-ended item were coded as one of four types: positive reaction (happiness or support expressed about the pregnancy); negative reaction (negative, stereotyped, or uncomplimentary remarks or jokes about pregnancy, resentment); neutral reaction ("no big deal"), or other reaction (shocked, surprised, or mixed). Table 9 illustrates the pregnant women's perceptions of work center reactions to the news of the pregnancy.

Table 9

Women's Perception of Original and New Work Center Reactions to Pregnancy

	Reactions to Pregnancy by Command Type			
	Supervisors		Co-workers	
	Ashore	Afloat	Ashore	Afloat
Original Work Center				
Positive	50	32	58	50
Negative	21	40	13	14
Neutral	24	24	16	14
Other	5	4	13	22
New Work Center				
Positive	63		55	
Negative	13		6	
Neutral	24		39	

According to the women, most co-workers in their original work center responded in a positive way, usually expressed by becoming protective and understanding. Only a small percentage of women reported that their co-workers responded with negative remarks. No significant differences were found between ashore and afloat work centers in terms of co-worker reaction. About half of the "other" responses for women in ashore commands represented mixed reactions, that is, co-workers exhibited both positive and negative reactions. Not surprisingly, it would appear that there is more ambivalence about pregnancy in ships than in shore commands.

The overall reaction of supervisors in the original work center was not as positive as that of co-workers. However, only about one quarter of the supervisors responded in a negative way to the news of pregnancy. Supervisors on ships were seen as less positive and more negative in their reaction to pregnancy than supervisors ashore [$\chi^2 (3, N = 457) = 16.99, p < .001$].

Correspondingly, supervisors were surveyed about their reactions to the news of pregnancy and the reactions of others in the work group. When answering this question, supervisors perceived themselves as only reacting in a positive manner. A number of supervisors wrote comments expressing their pleasure with the performance of the woman in question, yet some of these same supervisors commented that they knew *other* women deliberately became pregnant to get out of work or the Navy.

Change in Treatment

The women were asked if supervisors or co-workers treated them differently after they became pregnant. Again, because this item was open-ended, responses were placed into three categories: no change, positive change, and negative change. Table 10 shows the distribution of responses to these two questions dichotomized by ashore and afloat commands.

According to the women interviewed, the majority of supervisors did not change in their treatment after notification of the pregnancy. Significantly more of the women in ships than those ashore reported that their supervisors changed in a negative direction ($z = 4.97, p < .001$). Examples of negative changes included making derogatory remarks about pregnant women, increasing their work load, putting the woman in what she viewed as a worthless job, lowering her evaluation marks, or not permitting the woman to wear the command's identification patch.

Supervisors were also asked whether they had changed their behavior toward their pregnant subordinates and, if so, in what ways. Forty-seven percent reported a change in treatment, invariably manifested as showing concern for the woman's welfare (untabled). This change in treatment may involve putting pregnant women into jobs the supervisor sees as non-hazardous (such as administrative-type work). The women, however, may consider such jobs "worthless" because they are not in the woman's rate or do not contribute significantly to the mission of the work center. Only one supervisor reported a negative change in treatment ("I can no longer count on her").

As can be seen in Table 10, more than half of the women felt that their co-workers' treatment of them had not changed. However, proportionately more women afloat (than ashore) reported negative treatment. Examples of negative treatment by co-workers are illustrated by the following statements from interviews: "Thought I was worthless," "Tease and pick at me in a bad way,"

Table 10

**Women's Perception of Changes in Treatment by Original Work Center
Supervisor and Co-workers**

Type of Change	Percentage of Change in Treatment by Command Type	
	Ashore	Afloat
Supervisors		
No change	71	56
Positive	16	11
Negative	13	33
$\chi^2 (1, N = 416) = 18.45, p < .001$		
Co-workers		
No change	60	54
Positive	31	26
Negative	9	20
$\chi^2 (3, N = 407) = 9.39, p < .05$		

"Treat me like I'm getting away with something; a little more negative." Supervisors were also asked if they felt co-worker treatment of the pregnant woman had changed. Supervisors afloat were more likely to report a change in treatment among co-workers (34%) than were supervisors ashore (19%). One-third of the supervisors ashore responded that they did not know if co-worker treatment had changed (untabled). Co-workers were generally described as being positive in their treatment towards the women, such as volunteering to help the women (44%) or showing concern in other ways (49%) (untabled).

Reaction of New Work Group

Approximately one-third of the women interviewed were in a new work setting as a result of a recent transfer. Table 9, presented earlier, shows the reaction of the new work group.

Women reported that the majority of both supervisors and co-workers in their new work group responded positively to their arrival. These work groups may have been short-handed and the pregnant woman represented another worker. In many cases, the pregnant woman was not charged against the command's available billets. A large percentage of new co-workers were perceived as "neutral" toward the pregnancy, saying that the pregnancy was "no big deal." Workers in these groups were probably accustomed to receiving pregnant women. Interestingly, 72 percent of the women sent ashore from ships, as compared to 54 percent of those who transferred from one shore installation to another (untabled), felt that their new supervisors reacted positively to them (not a significant difference).

Change in Woman's Motivation

Table 11 shows supervisors' opinions of the women's work motivation before and after they became pregnant. This table represents the responses only of those who supervised a pregnant woman both before *and* after her pregnancy was discovered.

Table 11
Supervisors' Perception of Work Motivation of Women
Before and After Becoming Pregnant

	Level of Motivation in Percentages		
	High	Average	Low
Before Pregnancy			
Ashore command	68	28	4
Afloat command	63	30	7
$\chi^2 (2, N = 182) = 1.05, p > .05$			
After Becoming Pregnant			
Ashore command	60	32	8
Afloat command	46	27	27
$\chi^2 (2, N = 180) = 9.44, p < .01$			

Few women were seen as exhibiting low motivation before pregnancy. Relative to their shore-based counterparts, shipboard supervisors cited significantly fewer women as being highly motivated after becoming pregnant and cited significantly more women as being below average in motivation. Marital status also seemed to affect supervisors' perceptions of motivation. Compared with unmarried women, married women were more likely to be seen as highly motivated [$\chi^2 (2, N = 168) = 17.07, p < .001$] (untabled). Similarly, women who married while pregnant were more likely than unmarried pregnant women to be regarded as highly motivated [$\chi^2 (2, N = 167) = 6.25, p < .05$] (untabled).

When the data were analyzed by trimester, the supervisors reported almost no change in motivation as the pregnancy progressed. That is, the drop in motivation was seen as occurring in the first trimester and remained stable throughout the remainder of the pregnancy. This is a peculiar finding since the level of effort typically decreases as the physical burden of pregnancy increases and it raises intriguing questions that cannot be answered by the data. The perceived reduction in motivation early in the pregnancy leads to two questions: Did the attitudes of women toward their work change at that time? Or, did the attitude of supervisors change when they learned their subordinates were pregnant?

Impact of Pregnancy on Command

Pregnancy-related Variables and Their Effect on the Workplace

In both the interview and the survey, respondents were asked about the extent to which pregnancy-related events affected others in the workplace, making them work longer or harder. Table 12 shows the percentage of each response given by women and by supervisors. Due to small cell sizes, for these analyses responses of "great effect" and "some effect" were combined, as were responses of "to no extent" and "did not occur". While percentages are shown in the table, chi square analyses are on frequencies.

Table 12

Effect of Pregnancy-related Events on the Workplace as Perceived by
Pregnant Women (W) and Their Supervisors (S)

Event	Percentages				χ^2
	No Effect or Did Not Happen		Great or Some Effect		
	W	S	W	S	
OB-related visits	82	41	18	59	N.S.
Sickness	89	66	11	34	6.71*
Change in hours	90	66	10	34	10.40*
Change in job	84	58	16	42	5.21*
Rest periods	97	71	3	29	N.S.
Reduced stamina	89	62	11	38	N.S.
No watch standing	82	56	18	44	12.02**

* $p < .05$.

** $p < .001$.

For all of the events except OB-related medical appointments, the majority of both respondent groups stated that the event had not occurred or that it did not have an impact on the workplace. In general, when an effect was perceived, supervisors were much more likely than pregnant women to note it. In fact, women and supervisors differed significantly for four of the pregnancy-related events: sickness, change in hours, change in job, and no watch standing.

Analysis of the data by trimester revealed agreement between supervisors and women regarding both the negligible effect during the first 3 months and the increasing effect as the pregnancy progressed. However, supervisors were significantly more likely than the women to have perceived that the pregnancy had affected the job.

Relative to pregnant women at a shore command, pregnant women aboard ships generally are believed to have a more disruptive effect on the job. To investigate this perception, the supervisors' responses to these items were dichotomized as presented in Table 13.

Table 13

**Effect of Pregnancy-related Events on the Workplace as Perceived
by Supervisors Ashore (AS) and Afloat (AF)**

Event	Percentages						χ^2
	No Effect or		Some Effect	Great Effect			
	Did Not Happen						
	AS	AF	AS	AF	AS	AF	
OB-related visits	45	22	46	60	9	18	12.39*
Sickness	67	54	21	30	12	16	N.S.
Change in hours	66	58	24	30	10	12	N.S.
Change in job	63	31	27	40	10	29	25.03**
Rest periods	74	53	23	37	3	10	12.40*
Reduced stamina	65	43	30	43	5	14	13.70*
No watch standing	59	39	25	24	16	37	15.81**

* $p < .01$.

** $p < .001$.

For OB-related appointments, changes in job, rest periods, reduced stamina, and no watch standing, a significantly greater percentage of the shipboard supervisors than shore supervisors reported that changes made to accommodate the pregnancy had an impact on the woman's co-workers. Moreover, supervisors aboard ships perceived a relatively higher level of impact. The responses of shipboard supervisors to some of these events is puzzling because the women were aboard ship only during the first half of their pregnancy. Changes in hours, rest periods, and being taken off of watch standing are not supposed to occur until the third trimester (OPNAVINST 6000.1, 1985, OPNAVINST 6000.1A, 1989). Given the shipboard supervisors' responses, it must be the case that a very conservative interpretation of the policy is occurring. More specifically, early, and perhaps unnecessary, restrictions are being placed on women's activities.

Effect of Pregnancy on Command Readiness

Both the pregnant woman and her supervisor were asked if her contribution to command readiness had declined as a result of her condition. Table 14 illustrates responses by ashore vs. afloat. Supervisor percentages are based on the responses of only those who had supervised the woman both before *and* after her pregnancy began ($N = 176$).

For both women and supervisors, the differences between ashore and afloat commands were significant. Both groups were more likely to agree that the woman's contribution to command readiness had lessened when the billet was in a ship. Finally, supervisors were more likely than pregnant women to perceive a reduction in contribution.

Women and supervisors agreed that contribution to command readiness decreased as pregnancy progressed. This reduction was seen in a small percentage (about 17%) of women in the first trimester. However, supervisors reported that readiness decreased in 32 percent of women in

Table 14

**Percentage of Women and Supervisors Reporting that Contribution to
Command Readiness Decreased as a Result of Pregnancy**

	Percentage	
	Women (N = 480)	Supervisor (N = 176)
Command Type		
Ashore	20	24
Afloat	29	64
χ^2	4.94*	23.43**
Trimester		
First	16	17
Second	19	32
Third	27	40

* $p < .05$.

** $p < .001$.

their second trimester and 40 percent of women in their third trimester. The women themselves were less likely to perceive a decline. The differences between supervisors and women were not significant. Shipboard supervisors were slightly more likely than shore supervisors to report a decline in the woman's contribution to readiness during the second and third trimesters. However, the difference was not significant (untabled).

An analysis was performed of the degree to which the supervisors viewed the woman's billet as critical to command readiness. Forty-seven percent of all supervisors stated the billet was somewhat or very critical, while 17 percent viewed the billet as very critical to readiness. Among the supervisors who reported that the billet was somewhat or very critical, supervisors afloat (69%) were more likely than supervisors ashore (35%) to perceive a decrease in the pregnant woman's contribution to readiness [$\chi^2 (1, N = 112) = 10.11, p < .01$] (untabled). It should be noted, however, that 56 percent of supervisors who considered the billet somewhat or very critical did not view the pregnant woman's contribution to readiness as decreasing.

Nonavailable Time Resulting from Pregnancy

The women's estimates of the amount of time lost per month for prenatal medical visits are presented in Table 15. These estimates were derived from those women (87% of the sample) who reported attending the clinic during their work hours.

According to the women, on average, round trip travel between work and the clinic was 40 minutes; waiting for the examination took 20 minutes; the examination itself required 20 minutes; and filling a prescription took 27 minutes. Summing across these five events provides an average of 1.7 hours per visit.

Table 15
Pregnancy-related Lost Time by Trimester

Source of Lost Time	Mean Hours Reported by	
	Woman	Supervisor
Prenatal Care		
First trimester	1.9	3.9
Second trimester	1.9	3.1
Third trimester	4.7	8.2
Mean (total)	2.4	4.5
Pregnancy-related Illness		
First trimester	3.7	.9
Second trimester	3.7	2.7
Third trimester	7.7	6.5
Mean (total)	5.0	3.4
Lost Time Due to Pregnancy		
First trimester	5.6	4.8
Second trimester	5.6	5.8
Third trimester	12.5	14.7
Mean (total)	7.4	7.9

Assuming that the average visit includes getting a prescription filled, the number of hours lost per woman per trimester was computed based on the number of women in each trimester who were on monthly, semi-monthly, or weekly prenatal schedules. The mean for the total group includes women who lost no time for prenatal visits because they went on off-duty days or hours. It must be kept in mind that the women in these locations did not have to travel very far for their prenatal visits. In other locations, the travel time could be much longer, adding more hours to the nonavailable time.

Supervisors were asked to estimate how many hours their pregnant subordinate was away from the work center for a prenatal visit. Responses ranged from 1 to 9 hours; before weighting the average was 3 hours. Like the women's estimates, the supervisors' figures in Table 15 are weighted by frequency of visits per month. Supervisors of women in ships reported that their pregnant subordinates were gone significantly longer (3.6 hours) than the figure cited by supervisors of women ashore (2.7 hours) [$t(405) = 3.36, p < .001$] (untabed). Interestingly, a comparison of the estimates from women in ships and those ashore revealed that women aboard ships stated that they were gone a few minutes less. This difference may be due to the greater proximity of women on ships to the clinics at the naval stations. If the women's time estimates are correct, the significant difference between shipboard and shore supervisors may have appeared because absences from ships may be noticed more than those ashore.

When asked about how much time they had lost during the most recent month because of pregnancy-related illness, 11 percent of women in their first trimester, 12 percent of those in their

second, and 16 percent of the women in their third trimester stated that they had lost some time from work (untabled). The variance in the amount of time lost was great. A few women who were having difficult pregnancies or were at 39 or more weeks' gestation were responsible for extended periods of absence while 86 percent had no absences (untabled). The amount of time lost due to illness, averaged across all women (including those who lost no time), is shown in Table 15. The total mean is the average of the means across trimesters. The most frequently mentioned illnesses were premature labor (reported by 22%), morning sickness or hyperemesis (16%), and headache or fatigue (13%) (untabled). In addition, 36 percent of the women reported suffering from disorders not directly related to pregnancy, such as urinary tract or kidney infections.

Supervisors also were asked whether the women had been absent due to illness during the past month. Sixteen percent reported that their pregnant subordinate had lost time due to illness (untabled). Their estimates of how much time was lost in each trimester due to illness are shown in Table 15. Again, the total mean is an average of the means for each trimester.

The monthly amount of time lost solely due to pregnancy is shown in the third section of Table 15, which is a combination of the two previous sections. While there are small differences in trimester estimates of the women and their supervisors, the overall means are almost identical. Therefore, it can be said with considerable confidence that women *in these two geographic areas* lose an average of 1 day per month because of prenatal medical visits and pregnancy-related illnesses.

CONCLUSIONS

The characteristics of the sample upon which the conclusions and recommendations are based need to be kept in mind. This sample was fairly representative of pregnant Navy enlisted women in terms of age and paygrade, but not representative in terms of command and geographic location. A general conclusion drawn from the data is that assignment to a ship, as opposed to a shore assignment, influenced the perceptions of both pregnant women and their supervisors. Without exception, whenever a significant difference was found, the impact of pregnancy on the work center and the command was seen as being greater in ships than at shore bases.

Conclusions based on specific findings are presented below.

Management of Pregnant Women

1. Women who were not transferred to another command generally continued to work in their rating after becoming pregnant. Among those who were transferred, 60 percent were assigned in their rating at the new command. They worked normal shifts and hours until the third trimester, when restrictions are required.

2. More than half of the women in ships were transferred before their 20th week of gestation. This finding suggests that some commanding officers were taking a conservative approach to the management of pregnant women. The influence of impending deployments on the statistics is unknown.

3. Since women felt their supervisors had less experience with pregnant Navy women and less knowledge of relevant regulations than supervisors stated they had, the knowledge/experience was not obvious. Supervisors ashore were more apt to be familiar with OPNAVINST 6000.1 than those in ships. Forty percent of supervisors on ships admitted to having no knowledge of the instruction.

4. Over half the women had not received the counseling required by Navy regulation; this number is cause for concern.

5. Supervisors and women concurred on the degree to which hazards exist in the work environment. Both groups agreed that hazards were more prevalent aboard ships than ashore.

Interpersonal Outcomes of Pregnancy

1. Women perceived that only 11 percent of their co-workers and a quarter of the supervisors reacted negatively to the news of their pregnancy. None of the supervisors saw themselves as reacting negatively.

2. Most women did not believe that their supervisors treated them differently after they became pregnant. Women in ships, however, were more apt than women ashore to experience a negative outcome.

3. Commands and work groups receiving women transferred due to pregnancy generally did *not* respond to them negatively.

4. Supervisors, particularly those in ships, saw a decrease in the women's work motivation upon becoming pregnant. After the initial drop, motivation was judged to remain stable, and very few women exhibited low motivation even in the last trimester. The marital status of the pregnant woman affected supervisor perceptions.

Impact of Pregnancy on Command

1. Less than 20 percent of the supervisors felt that having a pregnant woman had a negative effect on the workload of others. Supervisors in ships, however, were more apt to note a negative effect. Shipboard supervisors felt that prenatal clinic visits, taking the woman off the watch billet, and transferring her placed a burden on others.

2. The majority of supervisors afloat perceived a reduction in the woman's contribution to readiness after she became pregnant; the majority of supervisors ashore did not.

3. The billets that pregnant women were occupying were not judged to be "very critical" by the majority of supervisors.

4. For the San Diego and Tidewater areas, pregnant women estimated that prenatal clinic visits averaged 2.4 hours per month, whereas supervisors thought that the women lost 4.5 hours.

5. Lost time due to pregnancy-related illnesses averaged 5 hours per month, according to pregnant women or 3.4 hours according to their supervisors.

6. Lost time due solely to pregnancy amounted to 1 day per month per pregnant woman in the Tidewater and San Diego areas where approximately 32 percent of all Navy enlisted women are stationed. Commands not serviced by efficient prenatal clinics and/or more than 20 minutes away from such care would experience more lost time than was found for this sample.

RECOMMENDATIONS

Based on the findings of the interviews and surveys, the following recommendations are made:

1. The Director of Military Personnel Policy should develop a short summary of the OPNAVINST 6000.1A. That summary should focus on the responsibilities of supervisors in managing pregnant women and contain a list of potential hazards. Upon confirmation of a pregnancy, medical personnel should provide the summary to women for their immediate supervisors. Implementing this recommendation should improve supervisors' knowledge of the contents of the instruction, raise awareness of environmental substances that could endanger the unborn child, and increase the probability that women would receive pregnancy counseling.

2. The Director of Military Personnel Policy should emphasize to commanding officers of ships that pregnant women should not have their hours or shifts shortened, be excused from watch standing, or be given rest periods during the first 20 weeks of the pregnancy, *unless* the change is recommended by a health-care provider. The workshop for prospective commanding officers of integrated ships is an appropriate forum for implementing this recommendation.

3. The Chief of Naval Personnel should widely disseminate the findings described in this paper, perhaps in *Navy Times* or *All Hands*.

REFERENCES

- Bertin, J. E., & Henifin, M. S. (1987). Legal issues in women's occupational health. In B. A. Gutek, A. Stromberg, & L. Larwood (Eds.), *Women at work: An annual review* (pp. 93-115). Beverly Hills, CA: Sage Publications.
- Blasko, D. G., O'Brien, E. J., Huester, M. T., & O'Brien, J. P. (1989, August). *Sex differences in the effects of pregnancy status on perceptions of personality and business success*. Paper presented at the meeting of the American Psychological Association, New Orleans, LA.
- Bolin, S. F., Cowings, J. S., & Johns, L. A. (1977). *Women soldiers in Korea: Command concerns about pregnancy, facilities, and other issues*. Alexandria, VA: Army Research Institute for the Behavioral Sciences.
- Bureau of Naval Personnel. (1989, 30 June). *Navy military personnel statistics* (NAVPERS 15658). Washington: Navy Department.
- Department of the Navy. (1985). *Management of pregnant servicewomen* (OPNAVINST 6000.1). Washington: Office of the Chief of Naval Operations.
- Department of the Navy. (1989). *Management of pregnant servicewomen*. (OPNAVINST 6000.1A). Washington: Office of the Chief of Naval Operations.
- Kenney, S. J. (1986). Reproductive hazards in the workplace: The law and sexual difference. *International Journal of the Sociology of Law*, 14, 393-414.
- Kotch, J. B., Ossler, C., & Howze, D. C. (1984). A policy analysis of the problem of the reproductive health of women in the workplace. *Journal of Public Health Policy*, 5, 213-227.
- Mitchell, B. (1989). *Weak link: The feminization of the American military*. Washington: Regnery Gateway.
- Olson, M. S., & Stumpf, S. S. (1978). *Pregnancy in the Navy: Impact on absenteeism, attrition, and workgroup morale* (NPRDC-TR-78-35). San Diego: Navy Personnel Research and Development Center.
- Stiehm, J. H. (1989). *Arms and the enlisted woman*. Philadelphia: Temple University Press.
- Thomas, P. J. (1987). *The Navy workweek at selected commands in the United States and overseas* (NPRDC-TN-88-9). San Diego: Navy Personnel Research and Development Center.
- Thomas, P. J., & Edwards, J. E. (1989). *Incidence of pregnancy and single parenthood among enlisted personnel in the Navy* (NPRDC-TR-90-1). San Diego: Navy Personnel Research and Development Center.
- Vernon, D. M. (1980, October). The impact of sole parenting and pregnancy on deployment. In A. D. Manlesdorff & L. E. Klusman (Eds.), *Proceedings of the AMEDD Psychology Symposium* (pp. 111-116). Washington: Walter Reed Army Institute of Research.

Walsh, D. C., & Kelleher, S. E. (1987). The "corporate perspective" on the health of women at work. In B. A. Gutek, A. Stromberg, & L. Larwood (Eds.), *Women at work: An annual review* (pp. 117-142). Beverly Hills, CA: Sage Publications.

APPENDIX A
INTERVIEW OF PREGNANT NAVY WOMEN

INTERVIEW OF PREGNANT NAVY WOMEN

Department of the Navy policy in regard to pregnancy has undergone several changes in the past 15 years. With increases in the number of Navy women, the need to better manage the assignment of those who are pregnant has arisen. Before sound policy can be established, however, the Navy needs to have more accurate information about current practices affecting pregnant women.

The Navy Personnel Research and Development Center has been asked to conduct a study of pregnancy. All responses to this interview will be kept strictly confidential and will not be revealed to anyone. The answers you give will be combined with those of all other women in the sample for statistical analysis. I will be requesting the names of your former and current supervisors so that they can be surveyed and the attitudes of supervisors toward pregnant women can be determined.

READ PRIVACY ACT STATEMENT

Your participation in this effort is voluntary. Failure to respond to any question will not result in any action being taken against you, but may affect the conclusions drawn from the interviews.

Location _____

Interviewer _____

Social Security Number _____ - _____ - _____

Name _____ Rate/Rating _____

Command _____

What department and
division? _____Age _____ Time in Navy _____ Month of pregnancy _____
years months years months

- _____ 1. How often are you scheduled for visits to the OB clinic?
- _____ 2. a. What percent of the time do you visit the clinic during duty hours?
- b. What determines when you will schedule an appointment?

- _____ 3. On the average, how many minutes does it take...
- _____ a. to go from your work center to the clinic?
- _____ b. to go from your home to the clinic?
- _____ c. waiting for your turn with the doctor?
- _____ d. to be examined, weighed, make your next appointment, etc.?
- _____ e. to have lab tests done?
(Up to this point in time, how many times have you been to the lab? _____)
- _____ f. to get prescriptions filled before leaving the clinic?
- _____ 4. a. At any time during the past month have you been unable to work because of your pregnancy? (If "yes", go to 4b and 4c)
- _____ b. How many work hours?
- _____ c. Describe the nature of your illness. _____

5. What was your duty location when you found out you were pregnant?
- _____ a. Ashore/Afloat
- _____ b. CONUS/Out of CONUS
- _____ c. Not deployed/Deployed
6. In what department and division were you assigned when you became pregnant?
- _____
- _____
7. a. Are you still assigned there? (If "no", go to 7b and 7c)
- _____ b. When were you transferred? (How many weeks into pregnancy)
- _____ c. Why were you transferred? _____
- _____
8. Are you currently working in your rating?
9. Were you working in your rating at the time you became pregnant?
10. How far along in your pregnancy were you when your command was notified of your condition?
11. a. After your command was notified of your pregnancy, did you receive command counseling on options in regards to your enlistment obligation? (If "yes", go to 11b and 11c)
- _____ b. How many weeks after your command was notified did the counseling take place?
- c. Describe the counseling you received, i.e., number of sessions, topics covered, advice given, usefulness, etc.
- _____
- _____
- _____
12. a. Are there any women CPOs or commissioned officers in your division? (If "yes", go to 12b and 12c)
- _____ b. Are any of them someone you can relate to?
- _____ c. Would you want to talk to any of them about a personal problem?
- _____

_____ 13. a. At this stage in your pregnancy, do you feel that you could/can perform all the duties that were required of you before you became pregnant? (If "no", go to 13b)

b. What can't you do? _____

14. Which of the following changes were made to your duties because of your pregnancy?

_____ a. Assigned to another work center in week _____

_____ b. Assigned to light duty in week _____

_____ c. Changed work hours from _____ to _____ hours per day in week _____

_____ d. Changed shift from _____ to _____ in week _____

_____ e. Other (describe) _____ in week _____

_____ 15. At whose suggestion were these changes made? _____

_____ 16. In your opinion, were these changes really necessary?

_____ 17. a. Do you think that any additional changes should be made in your current job? (If "yes", go to 17b)

b. What changes should be made? _____

_____ 18. Did your doctor or a nurse at the clinic ask you about hazards or physical demands in your job?

_____ 19. a. Are there special hazards or physical demands associated with your current work center that might lead to reassignment or job modification for a pregnant woman? (If "yes", go to 19b & 19c)

_____ b. What hazards? _____
Are you exposed to them? _____

_____ c. What physical demands? _____
Do you perform them? _____

- _____ 20. a. (If transferred at any time during the pregnancy) Were there special hazards or physical demands in your former work environment that might lead to reassignment or job modification for a pregnant woman? (If "yes", go to 20b & 20c)
- b. What hazards? _____
Were you exposed to them? _____
- c. What physical demands? _____
Did you perform them? _____
- _____ 21. (If hazards mentioned) Was your command or supervisor notified of any hazards by medical personnel?
- _____ 22. a. Is there any medical reason why you should not be treated as a healthy woman having a normal pregnancy? (If "yes", go to 22b)
- b. What is it? _____
23. How did your supervisor react to the news that you were pregnant?

- _____ 24. (If not transferred or not transferred immediately)
- a. In your opinion, after learning of your pregnancy, did your supervisor treat you differently than before? (If "yes", go to 24b)
- b. In what way(s) _____

25. (If transferred at any time during the pregnancy)
How did your new supervisor treat you, knowing that you were pregnant?

- _____ 26. How many people are there in your current workgroup? (including yourself)
- _____ a. Number of men
- _____ b. Number of women
- _____ 27. a. Are there any other women in your current workgroup who are pregnant?
- b. If yes, how many? _____

- _____ 28. How many of the people in your current workgroup have children?
29. How did your former coworkers react to the news that you were pregnant?
- _____
- _____
- _____ 30. a. (If not transferred or not transferred immediately) In your opinion, after learning of your pregnancy, did your coworkers treat you differently than before?
- b. In what way? _____
- _____
31. (If transferred at any time during the pregnancy) How did your new coworkers treat you, knowing that you were pregnant?
- _____
- _____
- _____ 32. (If coworkers have children) Do you think that your coworkers who have children treat you differently than those who do not?
33. To what extent have the following events in your pregnancy affected others in your current work center, making them work longer or harder?
- [Use the following scale: 1 = to a great extent, 2 = to some extent, 3 = to no extent, 4 = doesn't apply, 5 = don't know]
- _____ a. Time off for doctor visits/prenatal classes
- _____ b. Sickness or bed rest due to pregnancy
- _____ c. Changes in work hours
- _____ d. Changes in job duties
- _____ e. Rest periods while on duty
- _____ f. Less stamina
- _____ g. Inability to stand watch
- _____ 34. Do you feel that your contribution to your command's readiness is any less now than before you became pregnant? (original command)

- _____ 35. In general, excluding time lost due to pregnancy, do you think women lose more time from the job than men?
- _____ 36. Do you intend to continue on active duty or request a discharge due to pregnancy?
- _____ 37. When did you decide? (what week into pregnancy)
- _____ 38. a. Why are you planning to (remain in the Navy) (request a discharge)?
- _____
- _____
- _____
- b. How did you reach this decision (i.e., did you seek advice from anyone? Did the counseling process help)?
- _____
- _____
- _____ 39. (If not seeking discharge) How many years beyond your present enlistment do you plan to spend in the Navy?

.....

As mentioned earlier, a survey will be mailed to your former and current first-line supervisors to question their attitudes toward your pregnancy.

If transferred:

- _____ 40. Is your former supervisor a man or woman?
- _____ 41. How many months had this person supervised you?
- _____ 42. a. Do you think your former supervisor has had much experience with pregnant enlisted women?
- _____ b. Do you think your former supervisor knows the regulations applying to pregnant women?
- _____ 43. What is the name, rate and address of your former supervisor?
- _____
- _____ 44. Is your current supervisor a man or a woman?
- _____ 45. How many months has this person supervised you?

_____ 46. a. Do you think your current supervisor has had much experience with pregnant enlisted women?

_____ b. Do you think your current supervisor knows the regulations applying to pregnant women?

47. What is the name, rate and address of your current supervisor?

.....

48. I would like you to answer some questions about the father of your baby.

_____ a. At the time you became pregnant, was he in the military? (If "yes" What service _____ then go to 48a, 48b, 48c & 48 d)

_____ At the time you became pregnant, what was his:
b. Age

_____ c. Paygrade

_____ d. Rating

_____ 49. a. Were you married when you became pregnant? (If "no", go to 49b)

b. Are you planning to:

_____ Be married before the child's birth

_____ Be married after the child's birth

_____ Planning to live together

_____ Uncertain of future plans

_____ 50. a. Was this pregnancy planned? (If "no", go to 50b)

_____ b. Would you have had an abortion if the Navy paid for the procedure?

51. Why did you want this pregnancy? _____

52. a. What plans have you made for your child's arrival (i.e. housing, childcare, adoption, etc.)? _____

b. Have you sought advice from anyone about future plans?

____ 53. (If pregnancy was not planned) Were you using a method of contraception when you became pregnant?

If "Yes", what method? _____

If "No", why not? _____

____ 54. a. Were you using any method of birth control when you entered recruit training?

b. What contraceptive methods have you used since entering the Navy? If you have discontinued the use of a particular method, why?

method

reason discontinued

method

reason discontinued

method

reason discontinued

____ 55. a. Have you received any counseling or attended any classes at the OB/GYN clinic? (If "yes", go to 55b)

b. What kind of counseling/classes have you received?

____ 56. a. Since entering the Navy, have you ever attended a class or GMT (general military training) on sex education? (If "yes", go to 56b)

b. What topics were covered?

____ 57. a. Since entering the Navy, have you ever used non-Navy OB/GYN facilities? (If "yes", go to 57b)

b. What service(s) did you use and why didn't you use a Navy facility?

Occasion 1: _____
 service reason

Occasion 2: _____
 service reason

Occasion 3: _____
 service reason

____ 58. Since you entered the Navy, how many times have you been pregnant?

How many times have you had:

____ a. Live births

____ b. Still births

____ c. Miscarriages

____ d. Induced abortions

59. Do you have any comments or suggestions about the Navy's policy regarding pregnancy?

Thank you for your participation. I hope you have a healthy baby.

APPENDIX B
SURVEY OF SUPERVISORS

SURVEY OF SUPERVISORS OF PREGNANT WOMEN

Department of Navy policy in regard to pregnancy has undergone several changes in the past 15 years. With increases in the number of Navy women, the need to better manage the assignment of those who are pregnant has arisen. Before sound policy can be established, however, the Navy needs to know more about current practices.

The pregnant woman whose name appears below has stated that you are her first line supervisor. If this information is correct, please complete this survey and return it in the enclosed envelope. If you are not her supervisor but can give it to the person who is, please do so. If you are unable to either respond to the survey or pass it on to someone who can, sign your name in the box below and return the survey in the enclosed envelope or to the address on the bottom of the last page.

I am not and do not know who is the supervisor of the woman whose name appears below.

(your name)

(rate/rating)

[Label with name & rate of pregnant woman]

Privacy Act Statement

Your participation in this survey is voluntary. Failure to respond to any question will not result in any action being taken against you, but may affect the conclusions drawn from the survey. The Department of the Navy is granted the authority to conduct personnel surveys in 5 United States Code 301.

Instructions

Please read each question and all possible answers carefully before choosing the one that best reflects the facts or your beliefs. Make sure to answer all applicable questions on both sides of each page. Answers to questions about you will be used to divide up all the respondents into groups based on their experience as supervisors of pregnant women.

PLEASE FILL OUT THIS SURVEY PROMPTLY AND MAIL IT BACK.

Name _____ Paygrade _____ Rating _____

Command _____

Age _____ Time in Navy _____ Time at This Command _____
Years Months Years Months Years Months

Marital Status _____ Age(s) of Dependent(s) _____

1. How familiar are you with OPNAVINST 6000.1, MANAGEMENT OF PREGNANT SERVICE WOMEN?

____ Very familiar
____ Somewhat familiar
____ Not at all familiar

2. Is this the first time that you have had a pregnant enlisted woman working for you?

____ Yes (Go to Question 4)
____ No, at least one other pregnant woman has worked for me, but not within the past three years (Go to Question 4)
____ No, at least one other pregnant woman has worked for me during the past 3 years (Go to Question 3)

- 3a. Excluding the woman named in the cover page, what was your duty location the last time you supervised a pregnant woman? (Check all that apply.)

____ Ashore ____ CONUS ____ Deployed
____ Afloat ____ Out of CONUS ____ Not Deployed

- b. What was that pregnant woman's rate/rating? (If there was more than one woman, choose the woman who was pregnant most recently). _____

- c. Was that pregnant woman assigned to your work center throughout her pregnancy?

____ Yes (Go to Question 4)
____ No, she was transferred into my work center. (Go to Question 4)
____ No, she was reassigned to another work center. (Answer Questions 3d and 3e)
____ No, she was transferred to another command. (Answer Questions 3d and 3e)
____ No, she separated from the Navy. (Answer Questions 3d and 3e)

d. How many months passed before you received a replacement for the woman?

- ☐ 1 month or less
- ☐ 2 or 3 months
- ☐ 4 or 5 months
- ☐ 6 or more months
- ☐ I never received a replacement (Go to Question 4)

e. How many months after the replacement arrived was he/she able to do the job of the pregnant woman?

- ☐ 1 month or less
- ☐ 2 or 3 months
- ☐ 4 or 5 months
- ☐ 6 or more months

.....

THE NEXT GROUP OF QUESTIONS REFERS TO THE WOMAN, NAMED IN THE COVER PAGE, WHO TOLD US THAT YOU ARE HER SUPERVISOR.

4. Are you still the supervisor of this woman?

- ☐ Yes
- ☐ No, I was her supervisor, but she was transferred out of my work center.
- ☐ No, I was her supervisor, but she separated from the Navy.
- ☐ No, I have never been her supervisor. (If this block is checked, your survey is over. Skip all remaining questions and mail the survey in the envelope provided. Thank you for participating.)

5. How far along was her pregnancy when you were notified of her condition?

- ☐ weeks (best guess, if you don't know)
- ☐ I knew she was pregnant when she was assigned to my work center. (go to Question 7)

6. About how long after you were notified of her pregnancy did she receive command counseling in regards to her enlistment options?

___ weeks

___ She never received command counseling

___ I don't know if she received command counseling

7. At any time during the past month has she been unable to work because of her pregnancy?

___ No

___ Yes, ___ work hours

If "Yes", what was the reason? _____

8. How long is she away from the work center when she goes to the OB clinic?

___ She doesn't go during duty hours.

___ She goes during duty hours and usually takes about ___ hours per visit. (Please specify the usual length of her absences)

- 9a. Was she assigned to your work center before she became pregnant?

___ Yes (Go to Question 10)

___ No (Go to Question 9b)

- b. How closely does her former billet match the billet that she now occupies?

___ They are the same.

___ Before she came to my work group she was working as _____ (please specify).

___ I don't know what her former billet was.

10. How did you learn about activities or materials that may be hazardous or harmful for pregnant women? (Check all that apply).

___ I looked up the information myself.

___ The woman brought information provided by the OB/GYN clinic.

___ I was contacted by medical personnel.

___ I was contacted by my department head.

___ I was contacted by a personnelman.

___ Other (please specify) _____

- 11a. What special hazards are there in your shop that might lead to reassignment or job modification for a pregnant woman?
-
-

- b. What is the maximum amount of weight routinely lifted by women who are in the same job as the pregnant woman?

___ lbs.

12. Do you treat this woman any differently than you did before she became pregnant?

___ I was not her supervisor before the pregnancy.

___ No, I treat her the same.

___ Yes, I treat her differently in the following ways: _____

13. Do the coworkers of the pregnant woman treat her differently than before?

___ I don't know. I wasn't her supervisor then.

___ No, they treat her the same.

___ Yes, they treat her differently in the following ways: _____

14. To what extent do you think that the following events in the woman's pregnancy have affected others in your work group, making them work longer or harder? Use the following scale to answer.

1 = To a great extent

2 = To some extent

3 = Not at all

4 = Not applicable because didn't happen

a. ___ Time off for doctor visits/prenatal classes

b. ___ Sickness or bed rest due to pregnancy

c. ___ Changes in work hours

d. ___ Changes in job duties

e. ___ Rest periods while on duty

f. ___ Less stamina

g. ___ Inability to stand watch

15. How motivated was the woman with regard to her work before the pregnancy?

☐ She did not work for me before she became pregnant.

☐ She was a highly motivated worker.

☐ Her work-motivation level was average.

☐ She was below average in motivation.

16. How motivated has the woman been with regard to her work since she became pregnant?

☐ She is a highly motivated worker.

☐ Her work-motivation level is average.

☐ She is below average in motivation.

17a. How critical to command readiness was the position held by this woman when she became pregnant?

☐ Very critical

☐ Somewhat critical

☐ Not at all critical

☐ I don't know

b. Do you feel that this woman's contribution to the command's readiness is any less now than before she became pregnant?

☐ No

☐ Yes

☐ I don't know

18. Please write below any comments or suggestions you have about the Navy's policy regarding pregnancy. You may continue on the back of this page if necessary.

Thank you. Please return the survey in the enclosed envelope or mail to:

Navy Personnel Research and Development Center
Attn: SUP, Code 621
San Diego, CA 92152-6800

DISTRIBUTION LIST

Distribution:

Chief of Naval Operations (OP-01B2), (OP-01W), (OP-13), (OP-15)

Defense Technical Information Center (DTIC) (2)

Director, Human Resources Management Department (NMPC-6)

Surgeon General of the Navy (MED-25) (35)

Copy to:

Executive Secretary, Defense Advisory Committee on Women in the Services (DACOWITS) (35)

Director, Equal Opportunity Management Institute, Patrick Air Force Base, FL (EOMI)